

**Relativistic Klystron Two-Beam Accelerator Studies at the RTA Test Facility\***

G.A. Westenskow\*\*, D. Anderson, S. Eylon, E. Henestroza#, T.L. Houck\*\*, S.M. Lidia#, L.L. Reginato, D.L. Vanecek, and S.S. Yu

Lawrence Berkeley National Laboratory, Berkeley, California, USA

Keywords: Linear Colliders, RF Power, two-beam accelerator

A prototype rf power source based on the Relativistic Klystron Two-Beam Accelerator (RK-TBA) concept is being constructed at the Lawrence Berkeley National Laboratory to study physics, engineering, and costing issues. The prototype, called the RTA, is described and compared to a full scale design appropriate for driving the Next Linear Collider (NLC). Specific details of the induction core test and pulsed power system are presented. The 1-MeV, 1.2-kA induction gun currently under construction will also be described in detail.

\*\* Lawrence Livermore National Laboratory.

# University of California at Davis.

\*The work was performed under the auspices of the U.S. Department of Energy by LLNL under contract W-7405-ENG-48 and LBNL under contract AC03-76SF00098.